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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,534	07/16/2003	Hoi Chang	P00620-US-00 (19232.0003)	8981
22446	7590	03/23/2006	EXAMINER	
ICE MILLER LLP ONE AMERICAN SQUARE, SUITE 3100 INDIANAPOLIS, IN 46282-0200			KIM, JUNG W	
			ART UNIT	PAPER NUMBER
			2132	
DATE MAILED: 03/23/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/620,534

Applicant(s)

CHANG ET AL.

Examiner

Jung W. Kim

Art Unit

2132

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 15 March 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

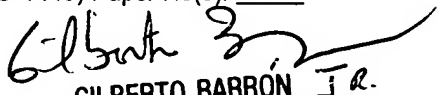
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 67-72 and 78-100.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

  
GILBERTO BARRÓN JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

***Continuation Sheet***

Applicant's arguments are not persuasive. Regarding applicant's argument that the Specification provides enabling disclosure of claims 67-72 and 78-87, it is noted that there is a general mention of selecting and adding a silent guard variable to the software program in the Specification as outlined by the Applicant, specifically on pg. 28, lines 17-19. (Remarks, pg. 13, 2<sup>nd</sup> paragraph) However, none of the other portions of the Specification indicated by the Applicant illustrate the remaining steps of "selecting ... determining ... revising ... installing ..." in a method for *adding tamper resistance* to a software program. All the portions Applicant points to (pgs. 31-34 and 85) illustrates *examples of a silent guard* in use. These are two distinct inventions.

Regarding Applicant's argument that the Collberg art does not cover the claimed invention, the main thrust of Applicant's argument appears to be based on differences Applicant identifies using the following comparison between Collberg's definition and Applicant's definition of their claimed invention. On pgs. 22-25, Applicant states the following definition given by Collberg and their own definition using language similar to Collbergs definition:

Definition 1: (Obfuscating transformation)

Let  $P \rightarrow P'$  be a transformation of a source program  $P$  into a target program  $P'$ .

$P \rightarrow P'$  is an obfuscating transformation, if  $P$  and  $P'$  have the same observable behavior. More precisely, in order for  $P \rightarrow P'$  to be a legal obfuscating transformation the following conditions must hold:

- If  $P$  fails to terminate or terminates with an error condition, then  $P'$  may or may not terminate.
- Otherwise,  $P'$  must terminate and produce the same output as  $P$ .

Using language similar to Collberg, for an original program  $S$  that has a guarding variable  $GV$  ( $GV$  can be a silent guard variable, program variable, etc.) added as recited in these claims, call the guarded program  $S^G$ :

- If  $S$  fails to terminate or terminates with an error condition, then  $S^G$  may or may not terminate;
- If  $S$  terminates, and the runtime value of  $GV$  equals the expected value of  $GV$ , then  $S^G$  terminates and produces the same output as  $S$ ;
- However, if  $S$  terminates, and the runtime value of  $GV$  does not equal the expected value of  $GV$ , then  $S^G$  may or may not terminate and  $S^G$  will not produce the same output as  $S$ .

This dependence on the runtime value of  $GV$  equaling the expected value of  $GV$  violates the basic definition of Collberg for a obfuscating transformation, and distinguishes the present invention as recited in claims 67-69, 71, 72, 78 and 80-100 over the split variable data obfuscation transformation of Collberg

There are two issues with Applicant's argument. The first is that the features upon which applicant relies (i.e., the properties of the three "definitions" using language similar to Collberg, particularly the 3<sup>rd</sup> bullet) are not recited in the rejected claim(s)- there is no limitation claiming a different output between the original program and the

guarded program when the original program terminates and the runtime value of GV does not equal the expected value of GV. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, Applicant's comparison does not properly distinguish a separation between the invention of Collberg and the method claims. Applicant's third condition (3<sup>rd</sup> bullet) for the silent guard method is not necessarily distinct from the first condition (1<sup>st</sup> bullet). Case in point, when S terminates and the runtime value of GV does not equal the expected value of GV then S may or may not terminate with an error condition. Furthermore, Collberg's first condition "If P fails to terminate or terminates with an error condition, then P' may or may not terminate" is broad enough to encompass the first and third conditions of Applicant's definition of the silent guard-the operations encompassed by the phrase "terminates with an error condition" includes the instances when P has terminated and P has not properly executed, i.e. when P is altered.

This inadequacy to distinguish from Collberg is further illustrated in the following interpretation of Collberg that fits Applicants "definition" of their claimed invention:

In figure 18(e) of Collberg, let GV be the variable "x", S be the original program (steps (1)-(10)) and S<sup>^</sup>G be the guarded program (steps (1')-(10')). Then:

it is true that if S fails to terminate or terminates with an error condition, then S<sup>^</sup>G may or may not terminate;

it is true that if S terminates, and the runtime value of GV equals the expected value of GV then S^G terminates and produces the same output as S;

moreover, suppose, S terminates, and the runtime value of GV does not equal the expected value of GV [since in step (8')  $x=2*a1+a2$  and  $a1=0$ ;  $a2=1$  (step 2') then the expected value of x is 1], i.e. x does not equal 1 or x equals 0, 2 or 3, then for a value of  $x==0$  or  $x==3$  at step (8'), it will produce a different output as in step (8). Therefore, it is true that if S terminates, and the runtime of GV does not equal the expected value of GV, then S^G may or may not terminate and S^G will not produce the same output as S.

In this example (fig. 18e), contrary to Applicant's allegations, x requires an expected value in order for a proper translation to the guarded program; the conditional statement "if (( $x==1$ ) || ( $x==2$ ))" in step (8') is only a valid interpretation of the corresponding statement "if (A)" in step (8) if x does in fact equal to 1 or 2, since A is assigned to be true. If this was not the case (x did not equal 1) then the program would not operate properly. Finally, in this example, the conditions of steps (8') and (10') are contingent on the proper initializations of a1, a2, b1, b2, c1 and c2, and the assignments of the variables x, c1 and c2. For these reasons, the rejections are deemed proper.

R 3/16/06  
Jung Kim